

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method for perioperatively inhibiting inflammation, inhibiting pain, effecting mydriasis, and/or decreasing intraocular pressure during an ophthalmologic procedure, comprising continuously irrigating ocular tissues during an ophthalmologic procedure with a solution including at least first and second agents in a liquid irrigation carrier, the first and second agents being selected to act on a plurality of differing molecular targets, each agent being selected from the physiologic functional classes of anti-inflammatory agents, analgesic agents, mydriatic agents and agents for decreasing intraocular pressure ("IOP reducing agents"), the second agent providing at least one physiologic function different than a function or functions provided by the first agent.

2. The method of Claim 1, wherein the solution comprises an anti-inflammatory agent selected from the group consisting of steroids, non-steroidal anti-inflammatory drugs (NSAIDS), anti-histamines, mast cell inhibitors, and inhibitors of inducible nitric oxide synthase (iNOS).

3. The method of Claim 2, wherein: the steroid, if selected, is selected from the group consisting of dexamethasone, fluorometholone and prednisolone; the NSAID, if selected, is selected from the group consisting of flurbiprofen, suprofen, diclofenac, ketoprofen and ketorolac; the anti-histamine, if selected, is selected from the group consisting of levocabastine, emedastine, olopatadine, ketotifen, and azelastine; the mast cell inhibitor, if selected, is selected from the group consisting of cromolyn sodium, lodoxamide, nedocromil, ketotifen and azelastine; and the inhibitor of iNOS, if selected, is selected from the group consisting of N<sup>G</sup>-monomethyl-L-arginine, 1400 W, diphenyleneiodium, S-methyl isothiurea, S-(aminoethyl) isothiurea, L-N<sup>6</sup>-(1-iminoethyl)lysine, 1,3-PBITU and 2-ethyl-2-thiopseudourea.

4. The method of Claim 1, wherein the solution comprises an analgesic agent selected from the group consisting of local anesthetics and opioids.

5. The method of Claim 4, wherein: the local anesthetic, if selected, is selected from the group consisting of lidocaine, tetracaine, bupivacaine, and

proparacaine; and the opioid, if selected, is selected from the group consisting of morphine, fentanyl and hydromorphone.

6. The method of Claim 1, wherein the solution comprises a mydriatic agent selected from the group consisting of alpha-1 adrenergic receptor agonists and anticholinergic agents.

7. The method of Claim 6, wherein: the alpha-1 adrenergic receptor agonist, if selected, is selected from the group consisting of phenylephrine, epinephrine, and oxymetazoline; and the anticholinergic agent, if selected, is selected from the group consisting of tropicamide, cyclopentolate, atropine and homatropine.

8. The method of Claim 1, wherein the solution comprises an IOP reducing agent selected from the group consisting of beta adrenergic receptor antagonists, carbonic anhydrase inhibitors, alpha-2 adrenergic receptor agonists, and prostaglandin agonists.

9. The method of Claim 8, wherein: the beta adrenergic receptor antagonist, if selected, is selected from the group consisting of timolol, metipranolol and levobunolol; the carbonic anhydrase inhibitor, if selected, is selected from the group consisting of brinzolamide and dorzolamide; the alpha-2 adrenergic receptor agonist, if selected, is selected from the group consisting of apraclonidine, brimonidine and oxymetazoline; and the prostaglandin agonist, if selected, is selected from the group consisting of latanoprost, travoprost and bimatoprost.

10. The method of Claim 1, wherein each of the first and second agents in the solution is included at a concentration of no more than 100,000 nanomolar.

11. The method of Claim 1, wherein each of the first and second agents in the solution is included at a concentration of no more than 10,000 nanomolar.

12. The method of Claim 1, wherein the liquid irrigation carrier further comprises an adjuvant selected from electrolytes sufficient to provide a physiological balanced salt solution, a cellular energy source, a buffering agent, a free-radical scavenger and mixtures thereof.

13. The method of Claim 12, wherein: the electrolytes, if selected, comprise from 50 to 500 millimolar sodium ions, from 0.1 to 50 millimolar potassium ions, from 0.1 to 5 millimolar calcium ions, from 0.1 to 5 millimolar magnesium ions,

from 50 to 500 millimolar chloride ions, and from 0.1 to 10 millimolar phosphate; the buffer, if selected, comprises bicarbonate at a concentration of from 10 to 50 millimolar; the cellular energy source if selected, is selected from dextrose and glucose and is present at a concentration of from 1 to 25 millimolar; and the free-radical scavenger, if selected, comprises glutathione at a concentration of from 0.05 to 5 millimolar.

14. The method of Claim 1, wherein the liquid irrigation carrier further comprises electrolytes sufficient to provide a physiological balanced salt solution, a cellular energy source, a buffering agent and a free-radical scavenger.

15. The method of Claim 14, wherein: the electrolytes comprise from 50 to 500 millimolar sodium ions, from 0.1 to 50 millimolar potassium ions, from 0.1 to 5 millimolar calcium ions, from 0.1 to 5 millimolar magnesium ions, from 50 to 500 millimolar chloride ions, and from 0.1 to 10 millimolar phosphate; the buffer comprises bicarbonate at a concentration of from 10 to 50 millimolar; the cellular energy source is selected from dextrose and glucose and is present at a concentration of from 1 to 25 millimolar; and the free-radical scavenger comprises glutathione at a concentration of from 0.05 to 5 millimolar.

16. The method of Claim 1, wherein the pH of the irrigation solution is between 5.5 and 8.0.

17. The method of Claim 1, wherein the first and second agents comprise one or more anti-inflammatory agents in combination with one or more analgesic agents, and optionally may also include one or more IOP reducing agents and/or mydriatic agents.

18. The method of Claim 1, wherein the first and second agents comprise one or more anti-inflammatory agents in combination with one or more IOP reducing agents, and optionally one or more analgesic and/or mydriatic agents.

19. The method of Claim 1, wherein the first and second agents comprise one or more anti-inflammatory agents in combination with one or more mydriatic agents, and optionally one or more analgesic agents and/or IOP reducing agents.

20. The method of Claim 1, wherein the first and second agents comprise one or more analgesic agents in combination with one or more IOP reducing agents, and optionally one or more anti-inflammatory agents and/or mydriatic agents.

21. The method of Claim 1, wherein the first and second agents comprise one or more analgesic agents in combination with one or more mydriatic agents, and optionally one or more anti-inflammatory agents and/or IOP reducing agents.

22. The method of Claim 1, wherein the first and second agents comprise one or more mydriatic agents in combination with one or more IOP reducing agents, and optionally one or more anti-inflammatory and/or analgesic agents.

23. The solution of Claim 1, wherein the solution comprises an NSAID, timolol and phenylephrine.

24. The solution of Claim 1, wherein the solution comprises an NSAID, timolol and tropicamide.

25. The solution of Claim 1, wherein the solution comprises oxymetazoline and an NSAID.

26. The solution of Claim 1, wherein the solution comprises a steroid, an NSAID, timolol and phenylephrine.

27. The solution of Claim 1, wherein the solution comprises timolol, an NSAID, tropicamide and a local anesthetic.

28. A method for perioperatively inhibiting inflammation, inhibiting pain, effecting mydriasis, and/or decreasing intraocular pressure during an ophthalmologic procedure; comprising irrigating ocular tissues during an ophthalmologic procedure with a solution including at least first and second agents in a liquid irrigation carrier, the first and second agents being selected to act on a plurality of differing molecular targets, each agent being selected from the physiologic functional classes of anti-inflammatory agents, analgesic agents, mydriatic agents and agents for decreasing intraocular pressure ("IOP reducing agents"), the second agent providing at least one physiologic function different than a function or functions provided by the first agent, each agent being included at a concentration of no more than 100,000 nanomolar.

29. A perioperative irrigation solution for use during ophthalmologic procedures to inhibit inflammation, inhibit pain, effect mydriasis, and/or decrease intraocular pressure during the procedure, including at least first and second agents in a liquid irrigation carrier, the first and second agents being selected to act on a plurality of differing molecular targets, each agent being selected from the physiologic functional classes of anti-inflammatory agents, analgesic agents, mydriatic agents and agents for decreasing intraocular pressure ("IOP reducing agents"), the second agent providing at least one physiologic function different than a function or functions provided by the first agent, each agent being included at a concentration of no more than 100,000 nanomolar.

30. The solution of Claim 29, wherein the solution comprises an anti-inflammatory agent selected from the group consisting of steroids, non-steroidal anti-inflammatory drugs (NSAIDS), anti-histamines, mast cell inhibitors, and inhibitors of inducible nitric oxide synthase (iNOS).

31. The solution of Claim 30, wherein: the steroid, if selected, is selected from the group consisting of dexamethasone, fluorometholone and prednisolone; the NSAID, if selected, is selected from the group consisting of flurbiprofen, suprofen, diclofenac, ketoprofen and ketorolac; the anti-histamine, if selected, is selected from the group consisting of levocabastine, emedastine, olopatadine, ketotifen, and azelastine; the mast cell inhibitor, if selected, is selected from the group consisting of cromolyn sodium, lodoxamide, nedocromil, ketotifen and azelastine; and the inhibitor of iNOS, if selected, is selected from the group consisting of N<sup>G</sup>-monomethyl-L-arginine, 1400 W, diphenyleneiodium, S-methyl isothioureia, S-(aminoethyl) isothioureia, L-N<sup>6</sup>-(1-iminoethyl)lysine, 1,3-PBITU and 2-ethyl-2-thiopseudourea.

32. The solution of Claim 29, wherein the solution comprises an analgesic agent selected from the group consisting of local anesthetics and opioids.

33. The solution of Claim 32, wherein: the local anesthetic, if selected, is selected from the group consisting of lidocaine, tetracaine, bupivacaine, and proparacaine; and the opioid, if selected, is selected from the group consisting of morphine, fentanyl and hydromorphone.

34. The solution of Claim 29, wherein the solution comprises a mydriatic agent selected from the group consisting of alpha-1 adrenergic receptor agonists and anticholinergic agents.

35. The solution of Claim 34, wherein: the alpha-1 adrenergic receptor agonist, if selected, is selected from the group consisting of phenylephrine, epinephrine, and oxymetazoline; and the anticholinergic agent, if selected, is selected from the group consisting of tropicamide, cyclopentolate, atropine and homatropine.

36. The solution of Claim 29, wherein the solution comprises an IOP reducing agent selected from the group consisting of beta adrenergic receptor antagonists, carbonic anhydrase inhibitors, alpha-2 adrenergic receptor agonists, and prostaglandin agonists.

37. The solution of Claim 36, wherein: the beta adrenergic receptor antagonist, if selected, is selected from the group consisting of timolol, metipranolol and levobunolol; the carbonic anhydrase inhibitor, if selected, is selected from the group consisting of brinzolamide and dorzolamide; the alpha-2 adrenergic receptor agonist, if selected, is selected from the group consisting of apraclonidine, brimonidine and oxymetazoline; and the prostaglandin agonist, if selected, is selected from the group consisting of latanoprost, travoprost and bimatoprost.

38. The solution of Claim 29, wherein each of the first and second agents in the solution is included at a concentration of no more than 10,000 nanomolar.

39. The solution of Claim 29, wherein the liquid irrigation carrier further comprises an adjuvant selected from electrolytes sufficient to provide a physiological balanced salt solution, a cellular energy source, a buffering agent, a free-radical scavenger and mixtures thereof.

40. The solution of Claim 39, wherein: the electrolytes, if selected, comprise from 50 to 500 millimolar sodium ions, from 0.1 to 50 millimolar potassium ions, from 0.1 to 5 millimolar calcium ions, from 0.1 to 5 millimolar magnesium ions, from 50 to 500 millimolar chloride ions, and from 0.1 to 10 millimolar phosphate; the buffer, if selected, comprises bicarbonate at a concentration of from 10 to 50 millimolar; the cellular energy source, if selected, is selected from dextrose and glucose and is present at a concentration of from 1 to 25 millimolar; and the free-

radical scavenger, if selected, comprises glutathione at a concentration of from 0.05 to 5 millimolar.

41. The solution of Claim 29, wherein the liquid irrigation carrier further comprises electrolytes sufficient to provide a physiological balanced salt solution, a cellular energy source, a buffering agent and a free-radical scavenger.

42. The solution of Claim 41, wherein: the electrolytes comprise from 50 to 500 millimolar sodium ions, from 0.1 to 50 millimolar potassium ions, from 0.1 to 5 millimolar calcium ions, from 0.1 to 5 millimolar magnesium ions, from 50 to 500 millimolar chloride ions, and from 0.1 to 10 millimolar phosphate; the buffer comprises bicarbonate at a concentration of from 10 to 50 millimolar; the cellular energy source is selected from dextrose and glucose and is present at a concentration of from 1 to 25 millimolar; and the free-radical scavenger comprises glutathione at a concentration of from 0.05 to 5 millimolar.

43. The solution of Claim 29, wherein the pH of the irrigation solution is between 5.5 and 8.0.

44. The solution of Claim 29, wherein the first and second agents comprise one or more anti-inflammatory agents in combination with one or more analgesic agents, and optionally may also include one or more IOP reducing agents and/or mydriatic agents.

45. The solution of Claim 29, wherein the first and second agents comprise one or more anti-inflammatory agents in combination with one or more IOP reducing agents, and optionally one or more analgesic and/or mydriatic agents.

46. The solution of Claim 29, wherein the first and second agents comprise one or more anti-inflammatory agents in combination with one or more mydriatic agents, and optionally one or more analgesic agents and/or IOP reducing agents.

47. The solution of Claim 29, wherein the first and second agents comprise one or more analgesic agents in combination with one or more IOP reducing agents, and optionally one or more anti-inflammatory agents and/or mydriatic agents.

48. The solution of Claim 29, wherein the first and second agents comprise one or more analgesic agents in combination with one or more mydriatic agents, and optionally one or more anti-inflammatory agents and/or IOP reducing agents.

49. The solution of Claim 29, wherein the first and second agents comprise one or more mydriatic agents in combination with one or more IOP reducing agents, and optionally one or more anti-inflammatory and/or analgesic agents.

50. The solution of Claim 29, wherein the solution comprises an NSAID, timolol and phenylephrine.

51. The solution of Claim 29, wherein the solution comprises an NSAID, timolol and tropicamide.

52. The solution of Claim 29, wherein the solution comprises oxymetazoline and an NSAID.

53. The solution of Claim 29, wherein the solution comprises a steroid, an NSAID, timolol and phenylephrine.

54. The solution of Claim 29, wherein the solution comprises timolol, an NSAID, tropicamide and a local anesthetic.